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WASHINGTON 25, D. C.

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MEMORANDUM TO: [REDACTED], Executive Secretary
Weapons Systems Evaluation Group

SUBJECT : ORR report on results of consultation between WSEG and
Analysis Division, ORR, on a current WSEG input-output
study.

1. Attached is a memorandum prepared in Analysis Division
reporting the results of preliminary review of the current WSEG
input-output analysis.

2. This report was prepared in response to your request for
ORR consultation dated 15 January 1953.

3. If ORR can be of further assistance in testing the results
of the analytical technique, please call upon us.

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[REDACTED]
ROBERT AMORY, JR.
Assistant Director
Research and Reports

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SECURITY INFORMATION04/05/12 CIA-RDP85B00236 00460079017-6
UNITED STATES GOVERNMENT

TO : Assistant Director, Research and Reports

FROM : Acting Chief, D/A

SUBJECT: D/A contribution to WSEG research project

DATE: 4 February 1953

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Pursuant to [] request of 15 January 1953, D/A [] has conferred with representatives of the Weapons Systems Evaluation Group concerning an interindustry study which WSEG is now undertaking. This is a preliminary report of the results of this consultation. The following pieces of information were available for comparison, evaluation, and appraisal:

(1) The 1947 US interindustry transactions, coefficient, and transposed inverse matrices for 190 industries and final demand by category.

(2) Stipulated total final demand (including defense industries) for each of 190 industries under both partial and full mobilization assumptions for the USSR in 1954 stated in 1947 US dollars.

(3) Gross output in 1947 US dollars for the USSR in 1954 under partial and full mobilization assumptions generated by the final demand in 190 industries.

(4) Final demand, by category (including defense industries), for a 34 and 20 industry aggregation of 190 industries under full and partial mobilization assumptions for the USSR in 1954 in 1947 US dollars.

(5) Final demand, by GNP categories, for the USSR in 1954 under partial mobilization assumption stated in 1948 rubles for 32 industries.

(6) Physical output for selected industries in the US for 1947.

(7) Time series of physical output for selected industries in the USSR through 1957.

With this information (especially (1), (3), and (6), it is possible to set up simple equations which will determine estimates of physical output of selected industries in the USSR in 1954 under partial and full mobilization assumptions. These physical outputs are those which are implied in (3) and were generated from (2).

When these physical outputs were compared with intelligence estimates (7) large discrepancies appeared, primarily in estimates of metals and energy production. In some cases these outputs were several times larger than the intelligence estimates.

In an interindustry system, it is possible for errors to creep in at many places. In this system, the most important areas where error might have occurred are:

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(a) The final demand, which includes the defense industries, might overstate the actual physical requirements of the defense industries and other final demand categories, such as investment and consumption.

(b) The schema of valuation might be systematically biased upward, which would overstate the physical quantities required under the mobilization assumptions.

(c) The interindustry structure (the US analogy) might overstate the impact of a given final demand in the USSR economy.

(d) The intelligence estimates of physical production might be understated.

(e) Computational errors might have resulted in the bias.

If none of the errors and biases described above exist, then the conclusion must be that the USSR is clearly not capable of either the partial or the full mobilization in 1954 specified by the military intelligence agencies.

After considering all the possibilities, Analysis Division tends to reject this conclusion. While WSEG never fully specified what was included in the defense industry requirements under partial and full mobilization assumptions in 1954, there is reason to believe that the USSR is capable of mobilizing on a large scale and is capable of the sort of mobilization programs which we have been led to believe are in the stipulated total final demands under both partial and full mobilization assumptions. 2

It is not possible for Analysis Division to evaluate (a) since it was not a part of the data which had been submitted. It is felt that actual physical final demand might be overstated somewhat. But it does not seem possible that the error could be so large as to explain the discrepancy.

While the US industrial structure in 1947 may overstate the impact somewhat, the error is too large to be accounted for in this manner.

Analysis Division does not believe that economic intelligence estimates provided by the intelligence community could explain substantial portions of the discrepancies.

There were no computational errors, although there were some mix-ups in the numbering systems. However, these cannot account for errors of the magnitude which we found.

It is believed that the small upward bias in (a) and (c) and the fact that under the given assumptions the estimates in (d) may be slightly low, coupled with the substantial error involved in using two different 1947 pricing systems (b) explain the error.

The 1947 final demand (included as a part of (1)) is valued in 1947 prices. This final demand is almost completely a civilian final demand. Military demand in that year in the US was negligible. When the final demand for the USSR in 1954 (2) was drawn up, prices in 1947 were used for the military end-item demand and for the military demand on all industries in the system. It has been given to us as a fact that prices for the military and prices for the civilian component in final demand are different; military prices are higher and substantially so. Soviet 1954 final demand (2) is weighted very heavily in favor of military demand; under full mobilization civilian consumption is of the order of one-third and is somewhat more under partial mobilization. When the physical requirements of the defense industries and armed forces (specified by the military agencies) were weighted by military prices in the US in 1947 a large error in total final demand was created. This large error, coupled with a possible overstatement of physical military demand, a slightly enlarged impact of the US analogy and trend projections of intelligence estimates which may understate Soviet production in 1954, can easily account for the errors which were observed.

As it stands it is not possible to evaluate the method and the data employed in the interindustry study. Therefore, no conclusions can be reached without substantial re-working of the entire problem. Analysis Division of this Office is in frequent contact with WSEG and should future developments in this problem warrant further consideration by us, we shall be glad to assist in any way we can.



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3 February 1953

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